THE LONDON HOSPITALS AND THEIR FUTURE.

Historical Account of Charing Cross Hospital and Medical School (University of London) Original Plan and Statutes, Rise and Progress. Founded 1818. *With which is included some Account of the Origin of the other Hospitals and Schools in London.* By Dr. W. Hunter. Pp. xx + 309. (London: John Murray, 1914.) Price 21*s.*

THE rise and development of the "teaching" hospitals of London is intimately associated with the progress of medical science in England; besides being the homes of medical education, much excellent research work, particularly on the clinical side, has emanated from their walls.

In a sumptuous volume, embellished with a wealth of illustrations and reproductions of old prints, Dr. William Hunter, its "Dean," reviews the history of Charing Cross Hospital. He classifies the modes and motives of origin of the London hospitals as follows:—(1) The *Monastic* (afterwards charitable), *e.g.* St. Thomas's and St. Bartholomew's; (2) the *Charitable, e.g.* Westminster, the London, St. George's, etc.; (3) the combined *Charitable* and *Educational,* for which Charing Cross Hospital was founded; and (4) the *Educational,* University and King's College Hospitals.

Founded by Dr. Benjamin Golding in 1818, the fortunes of Charing Cross Hospital were directed by him for a period of well-nigh fifty years. Of its many distinguished students, the name of Huxley is the most prominent, and his memory is perpetuated in the biennial Huxley Lecture delivered at the school.

The Charing Cross Medical School has continued to progress, and one of the latest developments is the housing of the Public Health Department of King's College within its walls—a form of concentration in one branch of medical education which to some extent falls into line with the conceptions of the Royal Commission on University Education in London.

Although the report of this Royal Commission foreshadows many changes in medical education, there seems little prospect of State control of the hospitals—indeed, the voluntary system of support appears to be in a stronger position than ever. When the first Employers' Liability Bill came into force many came to the conclusion that this was the thin end of the wedge for State control, and the second and more far-reaching Act seemed to confirm this opinion. As a matter of fact, however, the voluntary hospital system has gone on, and as the public became accustomed to these Acts, the hospitals continued not only as well as before, but most of them with improving revenues. Even the appearance of the National Insurance Act upon the scene has made no difference—most of the hospitals receive better support than ever from the public, and the King Edward's and other funds are thriving beyond all expectation. On one hand, it is true, the voluntary system has disadvantages. It is the generous and sympathetic portion of the public that supports the hospitals, and others shirk their responsibilities. On the other hand, the poor obtain better treatment than they could probably obtain in State supported hospitals. There is a blaze of light on the British voluntary system that is entirely absent from the continental State hospitals and in hospitals under the Poor Law. Even if the present voluntary hospitals were taken over by the State, it is almost certain that new ones would immediately be founded, as has been the case in Paris (*e.g.* the Hertford Hospital).

There might well be some modification of the hospital system in London. The sick should so far as possible be removed from the densely populated centres more into the country. That large blocks of wards should be erected on costly sites in the heart of London is a mistake—both financially and from the medical point of view. All that is required at the centre is accommodation for receiving rooms and for a sufficiency of beds for the reception of accidents and emergencies and for the treatment of the very ill. All the other cases, and the serious cases as they convalesce, should be removed to hospital wards erected more in the country. In these days of motor transport and improved road surfaces this would be an easy matter, and the staff by the same means could minister to the sick almost as readily on the slopes of Hampstead as at Hyde Park Corner.

R. T. HEWLETT.

SCIENCE AND METAPHYSICS.

(1) *Henri Bergson: An Account of his Life and Philosophy.* By A. Ruhe and N. M. Paul. Pp. vii + 245. (London: Macmillan and Co., Ltd., 1914.) Price 5*s.* net.

(2) *The Idealistic Reaction against Science.* By Prof. Aliotta. Translated by A. McCaskill. Pp. xxii + 483. (London: Macmillan and Co., Ltd., 1914.) Price 12*s.* net.

(3) *Berkeley and Percival.* By Benjamin Rand. The Correspondence of George Berkeley afterwards Bishop of Cloyne, and Sir John Percival afterwards Earl of Egmont. Pp. x + 302.

(Cambridge University Press, 1914.) Price 9*s*. net.

(1) IF a layman may presume to criticise the professional metaphysician, one may say that the merit of M. Bergson is to have freshened up philosophy. His point of view is *nullius addictus jurare in verba magistri*, and he has successfully cast off all the trammels not only of the old cut and dried philosophy of the schools, but even the gaseous mysticism of Neo-Hegelianism. Yet some style him a Neo-Hegelian. Philosophy, he says, should be moulded on experience, and experience both changes and grows with human development. There is something of most philosophies in M. Bergson's attitude to the universe, for his philosophy is simply this: it is everything but a system. He is neither monist nor pantheist, but, as it were, a layman trying to understand. This attitude of his is optimistic; he has confidence in the universe. It may seem that he, like other exponents of "the new philosophy," has a quarrel with monism and materialism, but he himself has deprecated all philosophical quarrels, for after all philosophy is only our attitude to and conception of the Absolute, and the wise man simply absorbs the positive results of all philosophies.

M. Bergson has given movement to metaphysics; he has charmed it with change. Change is "the very basis of all reality." To drive home his dynamic idea of reality, he employs phrases. In such a subject nothing else can be employed, for metaphysics is not science. It is at its best and it is most useful when it does not aim at being a science. The French philosopher is akin to the Greek Heraclitus, who preached eternal flux, and Heraclitus coined some great phrases. M. Bergson observes that "the animal is a specialist." It is a well-known truth, but has never been put so neatly. M. Bergson's demerit perhaps is his animism. He has studied most branches of science, but the only positive hint he derives from them is a "creative evolution," which is simply vitalism writ large. He speaks of "the idea of a God, Creator and free, the generator of both matter and life, whose work of creation is continued on the side of life by the evolution of species and the building up of human personalities." This may be pragmatic (though he would resent the imputation), but it amounts to very little. Equally *a priori* is his observation that "the brain apart from its sensorial functions has no other office than to exhibit in pantomime the mental life." It is scarcely fair, again, to credit the parallelist with supposing "that memories are somehow hung on the brain, as though a telephone conversation should remain on the wire." On the whole, M. Bergson strikes one as a brilliant epigrammatist, illuminating with modern flashes of insight the ancient and permanent text of Aristotle, "the principle of life is a God; for energy of mind constitutes life, and God is this energy. He, the first mover, imparts motion and pursues the work of creation as something that is loved." The phrase is worthy of Bergson, but the argument is in a circle.

(2) Signor Aliotta criticises with some volume the idealistic reaction against science in modern thought. He himself holds "a spiritualistic realism" by means of which he can defend scientific method and natural reality against the irrationalism of Neo-Hegelianism. His volume is remarkable as including criticism of every scientific and philosophic hypothesis and method of the last hundred years. Both Aliotta and Bergson show how modern philosophy aligns itself with science. All its deductions are based on some scientific theory. Signor Aliotta is at one with M. Bergson and other moderns in having done with scholasticism and systematism. "Concrete thought is not a cold abstract conception, but experience seen in the glow of the idea which breathes the warmth of feeling, and is moved by the energetic impulse of spontaneous volition, which inspires it with the enthusiasm of faith." "We must replace the static conception of the object which regards it as complete in itself in an inaccessible sphere by a dynamic view which beholds it in its progressive ascent to a higher form of knowledge and reality." He attempts to effect a *rapprochement* between idealism and realism, a laudable effort. Whereas Bergson finds in "intuition" the crucible of nature, Aliotta regards reason as "the final goal at which an experience aims and to which by its means all the beings in the world tend." This is teleology and presumes an Absolute Consciousness. "Nature does not exist only in the mind of man, but also outside our thought." "He who believes in the objective value of his science must then also believe in God. If an Absolute Thought does not exist, nature cannot be rational, and if there is no rationality in things, the reconstruction which we make of them with the categories and principles of our mind is an arbitrary projection of no value whatsoever."

(3) Such critical reflections would have interested Berkeley, the theorist of vision and the theistic idealist, who argued for the non-existence of matter. Existence and reality are terms which have borne the burden and heat of philosophers' tongues. Why not admit everything to be real? Berkeley's letters, hitherto unpublished, contain nothing of scientific or philosophic interest. They

only show concern as to the reception of his books, and a general interest, as of a man of the world who was also a prelate, in the doings of great personages. His famous excursions into science and metaphysics seem to have been such *tours de force* as have always been executed by brilliant public men.

In a sense Berkeley was an eighteenth-century Bergson. His naïve development of the thesis that judgment is involved in every act of vision was consonant with the then state of psychology. In his metaphysics he turned out matter, in order to introduce the living God. The being of the sense-world consists in its being perceived. The remark of Clarke and Whiston, themselves professional metaphysicians, deserves immortalisation; they expressed, when invited to criticise Berkeley, regret for "the waste of his extraordinary genius on metaphysics."

A. E. CRAWLEY.

OUR BOOKSHELF.

Modern Tunneling: with Special Reference to Mine and Water-supply Tunnels. By D. W. Brunton and J. A. Davis. Pp. vi+450. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1914.) Price 15*s.* net.

THE matter in this book is confined chiefly to tunnels and adits for mining purposes, and includes also those used to carry water for power, irrigation, and domestic use. Such tunnels are driven generally through fairly hard rock. Some cross-sections of typical tunnels are given, and extensive bibliographies are supplied which will be of assistance to the engineer responsible for the design of a tunnel. The bulk of the book, however, is taken up with descriptions of methods of executing tunnels. The authors are evidently experts in such work, and give capital discussions on such subjects as the choice of power for tunnel work, air compressors, ventilation, rock-drills, haulage, blasting, and timbering.

The section dealing with precautions which should be taken by the manager in order to ensure the safety of the workmen is of particular interest. In 1911 an average of nearly four men per 1000 employed in and about the metal mines of the United States were killed; 3·8 per 1000 in coal-mining were killed in the same period. These accidents are not entirely preventable, but much of the present mortality and injury is the result of ignorance or gross carelessness, and can be avoided. When, for instance, a man sees fit to thaw frozen dynamite in a frying-pan, or by a candle flame, there is nothing accidental about the explosion which ensues. Many managers also are either ignorant of ordinary precautions or most negligent in seeing that they are properly and consistently carried out. The fall of a slab of rock weighing anything less than one ton should be charged at once to carelessness.

The authors give a long list of don'ts, and include notes of warning regarding intoxication, which, as a contributory cause of accidents, is too little appreciated. Even a slight degree of intoxication is dangerous underground, where it is very apt to be greatly aggravated by lack of fresh air and by heat. Most of the processes described relate to American practice, but British engineers will find much to interest them in this volume.

Jute and Linen Weaving. By T. Woodhouse and T. Milne. Second edition. Pp. xxvii+590. (London: Macmillan and Co., Ltd.; New York: The Macmillan Company, 1914.) Price 12*s.* net.

THIS book must be ranked among the classics in technical literature. There is a thoroughness and completeness about it that appeals equally to the elementary student of weaving, to the experienced textile engineer, and to all those occupying responsible positions in the weaving departments of the textile industry.

Whilst the book is written around the title and deals with the subject of jute and linen weaving, a very considerable portion is equally valuable to the cotton and other sections of the trade; in fact, it may be looked upon as a very comprehensive exposition of the subject of weaving in general, for most of the problems and mechanism connected with weaving are fully treated.

For a book of this character to require a second edition is clear evidence of the very high appreciation in which it is held. The authors have taken advantage of this issue to add considerably to its value by the inclusion of some 108 new illustrations with their corresponding explanations, and much new matter has been incorporated. The 582 pages are divided up into twenty-two chapters ranging from an explanation of counts, through a very complete description of preparing machinery of almost all types, arrangements and details of looms, and their special purposes with minute particulars of their functions and products.

The newest chapters include automatic weft supply mechanisms, the chain linking machine, terry or turkish towel motions, warp stop motions, the latest box motions and jacquards, and an interesting chapter on electric driving of individual looms.

To all who are interested in jute and linen weaving and even to those who are chiefly concerned in other sections of manufacture, this book can be recommended as an unusually valuable text-book, and the authors are to be complimented on attaining such a high level in their treatment of the subject.

The Indian Museum, 1814–1914. Pp. xi+136+ appendixes. (Calcutta: Trustees of the Indian Museum, 1914.)

ONLY Anglo-Indians who, like the present writer, can recall the days when—in the early middle 'seventies—the natural history and antiquarian collections of the Asiatic Society of Bengal were crammed into an ordinary-sized dwelling-house in Park Street, while those of the Geological Survey, together with its offices, were housed in a business